

IN THE CLAIMS:

Claims 1-8 (cancelled)

9. (currently amended) A digital-to-phase converter, comprising:

a delay line having a plurality of delay taps;

a multiplexor coupled to the delay line, the multiplexor having a plurality (N) of input ports for receiving the plurality of delay taps and an output port for providing an output signal and an input port for receiving an n-bit binary word (IN);

a synchronization circuit having a first input port for receiving the output signal from the multiplexor and a second input port for receiving a trigger signal, the synchronization circuit further having an output port for providing an output signal only when the synchronization circuit is gated by the trigger signal (TRIG); and

a reference clock providing a reference signal (REF) to the delay line and the synchronization circuit. ~~A digital-to-phase converter as defined in claim 7,~~ wherein the reference signal (REF) is a pulse train having rising and falling edges and the synchronization circuit forms an aperture region when $IN \leq N/2$ that begins on the first rising edge of the reference signal (REF) after the first rising edge of the trigger signal (TRIG) signal and remains active for a predetermined period thereafter.

10. (Original) A digital-to-phase converter as defined in claim 9, wherein the predetermined period that the aperture region formed by the synchronization circuit remains active is approximately $3/2$ the period (T_{ref}) of the reference signal (REF).

11. (Original) A digital-to-phase converter as defined in claim 9, wherein the synchronization circuit forms an aperture region when $IN > N/2$ that begins on the first falling edge after the first rising edge of the reference signal (REF) after a trigger signal (TRIG) has occurred and the aperture region remains active for a predetermined period of time.

12. (Original) A digital-to-phase converter as defined in claim 11, wherein the predetermined period of time that the aperture remains active is for approximately $3/2$ the period (T_{ref}) of the reference signal.

Claims 13-16 (canceled)